

about 10% by weight based on the solid content of photosensitive composition.

A coloring agent may further be added for the purpose of coloring the photosensitive layer. Examples of the coloring agent include a pigment, for example, a phthalocyanine pigment, e.g., C. I. Pigment Blue 15:3, 15:4 or 15:6, an azo pigment, carbon black or titanium oxide, and a dye, for example, Ethyl Violet, Crystal Violet, an azo dye, an anthraquinone dye or a cyanine dye. The amount of the coloring agent added is preferably from about 0.5 to about 20% by weight based on the total weight of photosensitive composition.

In addition, an additive, for example, an inorganic filler or a plasticizer, e.g., dioctyl phthalate, dimethyl phthalate or tricresyl phosphate may be added in order to improve physical properties of the cured film. The amount of such an additive added is preferably not more than 10% by weight based on the total weight of photosensitive composition.

The composition for the photosensitive layer of the photosensitive lithographic printing plate according to the present invention is dissolved in an organic solvent and coated on a support described hereinafter. Various kinds of solvents can be used and examples thereof include acetone, methyl ethyl ketone, cyclohexane, ethyl acetate,

ethylene dichloride, tetrahydrofuran, toluene, ethylene glycol monomethyl ether, ethylene glycol monoethyl ether, ethylene glycol dimethyl ether, propylene glycol monomethyl ether, propylene glycol monoethyl ether, acetylacetone, cyclohexanone, diacetone alcohol, ethylene glycol monomethyl ether acetate, ethylene glycol monoethyl ether acetate, ethylene glycol monoisopropyl ether, ethylene glycol monobutyl ether acetate, 3-methoxypropanol, methoxymethoxyethanol, diethylene glycol monomethyl ether, diethylene glycol monoethyl ether, diethylene glycol dimethyl ether, diethylene glycol diethyl ether, propylene glycol monomethyl ether acetate, propylene glycol monoethyl ether acetate, 3-methoxypropyl acetate, N,N-dimethylformamide, dimethyl sulfoxide,  $\gamma$ -butyrolactone, methyl lactate and ethyl lactate. The organic solvents may be used individually or as a mixture of two or more thereof. The concentration of the solid content in the coating solution is suitably from 1 to 50% by weight.

A surface active agent may be added to the photopolymerizable composition for the photosensitive layer of the photosensitive lithographic printing plate according to the present invention in order to improve surface properties of coating.

The dry coating amount of photosensitive layer is preferably from about 0.1 to about 10 g/m<sup>2</sup>, more

preferably from 0.3 to 5 g/m<sup>2</sup>, and still more preferably from 0.5 to 3 g/m<sup>2</sup>.

On the photosensitive layer described above, an oxygen-isolating protective layer is ordinarily provided in order to prevent from a polymerization inhibiting function of oxygen.

A water-soluble vinyl polymer, which is incorporated into the oxygen-isolating protective layer, includes polyvinyl alcohol and a copolymer thereof containing a substantial amount of unsubstituted vinyl alcohol unit sufficient for imparting the desired solubility in water, for example, a partial ester, ether or acetal of polyvinyl alcohol. Polyvinyl alcohol that has a hydrolyzing rate of from 71 to 100% and a polymerization degree of from 300 to 2,400 is used. Specific examples thereof include PVA-105, PVA-110, PVA-117, PVA-117H, PVA-120, PVA-124, PVA-124H, PVA-CS, PVA-CST, PVA-HG, PVA-203, PVA-204, PVA-205, PVA-210, PVA-217, PVA-220, PVA-224, PVA-217EE, PVA-217E, PVA-220E, PVA-224E, PVA-405, PVA-420, PVA-631 and L-8 manufactured by Kuraray Co., Ltd. Examples of the copolymer include polyvinyl acetate, polyvinyl chloroacetate, polyvinyl propionate, polyvinyl formal and polyvinyl acetal hydrolyzed from 80 to 100%. Other useful polymers include polyvinyl pyrrolidone, gelatin and gum